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ABSTRACT

A discussion of the literature on cooperative learning and demographic trends in American education focuses on factors contributing to academic achievement in an increasingly multicultural school population. Research suggests that cooperative learning groups achieve only in the presence of two essential conditions: group goals and individual accountability. Cooperative learning methods that incorporate these conditions are found to be considerably more effective than other instructional methods. Research indicates that cooperative learning promotes higher achievement than competitive and individualistic learning structures, promote healthy ethnic relations and reduce racial conflict, contribute to student socialization and democratic participation, and support development of the flexibility needed in a rapidly changing economy. Five principles underlying successful cooperative learning experiences are outlined: distributed leadership; heterogeneous grouping; positive independence; social skills acquisition; and group autonomy. Teachers are encouraged to adopt a cooperative classroom structure, which is seen as more compatible with the social values of language-limited students. (MSE)

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COOPERATIVE LEARNING, MULTICULTURAL FUNCTIONING, AND STUDENT ACHIEVEMENT

Cecilia Salazar Parrenas
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Abstract

This paper identifies the demographic challenges classroom teachers face as they find the reshaping of the profile of the American student population. Limited English proficient (LEP) students remarkably stand out because of their cultural diversity and their rapidly increasing numbers. Many of these students face extraordinary barriers to achieving the high levels of literacy that would allow them to become fully enfranchised members of our society.

Research indicates, according to Webb (1982) in his study on student interaction and learning in small groups, that cooperative learning groups attain achievement only if the two essential conditions of setting group goals and individual accountability are provided. A review of the literature on cooperative learning and student achievement (Slavin, 1988) shows that the success of cooperative learning in increasing student achievement depends substantially on the provision of group goals and individual accountability. Cooperative learning methods that incorporated both group goals and individual accountability are considerably more effective. When schools use cooperative learning with the primary purpose of enhancing student achievement, past research findings should be taken into consideration.

Cooperative Learning and Diversity in the Classroom

Cooperative learning has been considered as the answer to many educational problems. It has been proposed as an alternative to ability grouping, special programs for the gifted, Chapter I pull-outs, special education, and language programs for non English speaking and limited English proficient students. It has been perceived as a tool to introduce critical thinking skills and to ensure that students learn basic skills. It has been used to mainstream academically handicapped students, and to immerse language deficient students to give them the necessary skills to survive in an increasingly interdependent society. Recently, cooperative learning has been used as a major component of programs for limited-English language students who come from a broad spectrum of social and racial backgrounds and are expected to work up to the expectations of their new schools and unfamiliar society.

The entry of language limited students in our schools has reshaped the profile of the American student population. As a result, classroom teachers face many challenges brought about by demographic changes that require changes in descriptors for our students. These students remarkably stand out because of

their cultural diversity and rapidly increasing numbers. They come to school with different values and backgrounds.

Tests results document a consistent lag in the achievement scores of Hispanic students (Coll, 1989). English-fluent Hispanic students score lower than all language-minority groups at the elementary level on the California Assessment Program test. In high school, 45% of Hispanic youth who enter grade nine do not graduate. Across the United States there is a "majority-minority progressive school achievement gap". Each year non-white students fall further behind white students while there is little or no difference in the achievement scores of these students at or near entry to school. By the end of elementary school, non-white students fall further behind white students in math and score a full grade behind in reading. By the end of the junior high school, the gap has doubled so that white students score a full grade higher in math and two full grades higher in reading. Beyond then, it is impossible to get accurate comparison figures because of differential drop-out rates--non-white students begin dropping out of the educational pipeline much earlier than do white students (Cummins, 1989).

Many reasons for the poor record of schools in educating and holding non-white students have been established. One plausible explanation offered is the structural bias hypothesis (Johnson, Johnson & Holubec, 1988). The schools have been structured to rely heavily on competitive tasks and reward structures which provide a bias in favor of the achievement and values of the white students. Majority students are generally more competitive in their social orientation than non-white students who tend to achieve better and feel better about themselves and school in less competitive classrooms. Cooperative learning groups can be used so that students may be grouped accordingly on the basis of their achievement on a single subject, and not mainly by general achievement or ability level thereby reducing the effect of competition.

Essential Conditions for Successful Cooperative Learning Groups

Research indicates, according to Webb (1982) in his study on student interaction and learning in small groups, that cooperative learning groups attain achievement only if two essential conditions are provided. First, the group must be aware that they have a group goal; that the group ears the certificate or bonus points through group effort. Second, achievement can be assured if the group is aware of individual accountability. Each individual must contribute to the team effort. Without group goals, students are not likely to engage in the elaborate explanations that have been found to be essential to the achievement effects of cooperative learning. Further, group goals may help students overcome their reluctance to ask for help or provide help to one another; that is, without an over-riding group goal, they may be embarrassed to ask for or offer help. In addition, without individual accountability, one or two group members may do all the work and those group members perceived to be low achievers may be ignored if they contribute ideas or ask for help.

A review of the literature on cooperative learning and student achievement Slavin (1988) suggests that the success of cooperative learning in increasing student achievement depends substantially on the provision of group goals and

individual accountability. Methods that incorporate group goals and individual accountability include Student Team Achievement Divisions (Slavin, 1987(b), Teams-Games-Tournament (DeVries and Slavin, 1978), and Team Assisted Individualization-Mathematics (Slavin, 1985).

Cooperative learning methods that incorporate both group goals and individual accountability are considerably more effective than other methods (Slavin 1988). The misconception that all cooperative learning situations are equally effective can perhaps be attributed to a meta-analysis by Johnson and Johnson (1975) that claimed that 122 studies supported the effectiveness of cooperative learning in all its forms. It is possible that high test scores in this meta-analysis repesented individuals scoring better when they were giving each other answers than when they worked alone. However, they may or may not have learned more from the experience than students in traditional classrooms.

Cooperative learning in any form seems positive but may not assure a miraculous improvement in student achievement. It has been cited to have many positive effects. They include the areas of academics, economics, self-esteem, intergroup relations, and the ability to work with others.

1. The Achievement Gap

Johnson and Johnson (1981) conducted a meta analysis on 122 achievement-related studies. Overall, their conclusion was that cooperative learning promotes higher achievement than competitive and individualistic learning structures across all age levels, subject areas, and almost all tasks. Slavin (1983) analyzed 46 controlled research studies which were conducted for an extended time in regular elementary and secondary classrooms. Of the studies, 63% showed superior outcomes for cooperative learning, 33% showed no differences, and only 4% showed higher achievement for the traditional comparison groups. Almost all (89%) of the studies which used group rewards for individual achievement (individual accountability) showed academic gains. When individual accountability was absent, achievement was about the same as in comparison classrooms. The lowest achieving students and minority students in general benefited most, but the benefit obtained for the lower achievers was not at the expense of the higher achievers. The high achieving students generally performed as well or better in cooperative classrooms than they did in traditional classrooms.

2. Ethnic Relations

The changing demographic profile means increased racial diversity. The schools, however, have not adopted effective practices to create positive race relations. The courts have mandated desegregation, but within the classrooms students segregate themselves along race lines. As with the school achievement issue, the problem of poor race relations among students is progressive: each school year students choose fewer friends from outside their own ethnic or cultural group. At the beginning of elementary school, children work easily in mixed racial groups but by the end of elementary school, they begin to segregate themselves along race lines. Racial divisions and tensions increase throughout middle school, culminating with high school where students are isolated by racial groups. Whether or not there is the appearance of racial gangs, there is racial tension. Students are not generally prepared by the schools to work well in a racially integrated democratic society. Unless there is a change in educa-

tional practices, the increased racial diversity will result in two crises within schools: (1) failure to hold and educate most students; and (2) increased racial tension and segregation along race lines among students. As non-white students become the new majority, schools will become elitist, effective for only the "white" minority. If educators continue along this present path schools are likely to experience achievement crises. The potential for a race-relations crisis is frightening. Increased racial diversity in the absence of programs which promote positive cross-race relations could be associated with race-relation problems so severe that they could threaten the fabric of our democracy. Cooperative learning can promote ethnic relations and help reduce conflict among racial groups.

3. Socialization: Historical Departure

Students today generally do not come to school with the same prosocial values which once were common. Students do not seem as respectful, careful, helpful, or cooperative as they were some twenty years ago. The loss of prosocial values and behaviors among students may be the result of a number of converging economic and social factors (Arreaga-Mayer, 1986). Families today are mobile, cutting children away from stabilizing influences of enduring neighborhood and community support systems. The two-income family has become an economic necessity and as mothers leave home, children spend less time in the company of the person generally most concerned about their positive development. Because families are small and nonextended, children grow up having less contact with older siblings and grandparents--older caring people who once had a positive impact on children's social development.

Children now spend more time viewing television than they do in school or in any other single daily activity. Three problems with television as a substitute socializer are frequently cited:

a. The content of television programs often provides a very poor model for social development. More violent acts per minute are portrayed on children's TV programs than at any other time.

b. When the television is on, the probability is decreased that family members will interact in ways likely to increase positive social development. Television viewing is a very individualistic endeavor. As family members orient themselves toward the television rather than each other, opportunities are lost for children to learn valuable social interaction and communication skills.

c. A tremendous fortune goes into television advertising, all designed to communicate a fundamental message: if you are unhappy, you can solve that problem by purchasing a product. The youth is taught by television that the way to be more attractive is to buy a better deodorant. There is no advertisement for increasing one's communication or conflict resolution skills.

These changing family structures and socialization practices have resulted in students who lack social sills and attachments. The students of today generally do not know how to get along well with each other. They seem to care less for each other and for themselves.

The need for a positive socialization program in schools is indicated also by a variety of statistics. Suicide rates among our students have climbed drastically in the last twenty years. Among an average group of 640 high school students this year, one will commit suicide; ten will make a serious attempt to do so; and 100 will contemplate on doing so. Crimes against persons and property in

school are at an unprecedented rate. Schools must devote substantial resources to repair vandalism. Some have been forced to hire security forces. Many students leave today's schools without the social skills necessary to hold a job. A large study examining the reasons for job loss among first-time employees revealed that the most common cause of losing a job--far more common than job-related skills--was the lack of social skills. Today, students finish their education unprepared for the social demands of our modern economy.

Schools must pick up the job of socializing students in the values of caring, sharing, and helping. If exclusively traditional classroom structures are used, children become more competitive; if cooperative classroom structures are used, children become more cooperative.

Traditional competitive classroom structures contribute to a socialization void. Students no longer come to school with an established caring and cooperative social orientation. Thus, students are ill-prepared for a world which increasingly demands highly developed social skills to deal with increasing economic and social interdependence.

Cooperative learning will help preserve democracy. Exclusive use of autocratic, teacher dominated classroom structures leaves students unprepared for participation in a democratic society. Democracy is not nurtured by a system which fosters racial cleavage, educates only an elite group, models autocratic decision making, and expects passive obedience among pupils. Cooperative interdependent educational experiences in our classrooms are necessary if we hope to make possible the democratic ideal of informed and equal participation.

4. Economic Trends

At the turn of the century, more than one-third of the total labor force in this country was engaged in farming. Now less than 3% of the work force are farmers. During the last thirty years, there has been another shift which the sociologist Daniel Bell calls "post-industrial age." A nation of farmers turned industrialists and laborers. But almost without noticing in the last thirty years, Americans have again transformed their economic base. The U.S. is now a nation of professionals. Now, more than two-thirds of the work force deals primarily with information and/or other people. It has become a nation of secretaries, clerks, teachers, accountants, and managers. This trend is continuing. Of the two million new jobs created in the 70s, 5% were in manufacturing and almost 90% were in information, knowledge, or service. Legal services, not apparel, are now New York City's leading export. The nation's work force grew 18% in the 70s but the number of administrators and managers grew by about 60%.

The radical transformation of this economic and information base has very serious implications for education. If educators are going to succeed, they must look beyond scores on narrowly defined achievement tests. Teachers are now called upon to prepare students for a different world, including different kinds of skills, if they are to be successful.

Because of the rapid change rate in the information base, the content taught to children is outdated by the time they get to high school. Educators must make a radical shift in their approach to teaching. They must balance the emphasis on content with an emphasis on process. Students in the future will need to know how to find out and how to produce knowledge. They will less often than not be called upon to draw from a stable storehouse of knowledge.

Educators must teach students not just what science knows but how knowledge is generated.

The very rapid change rate in this economic base has resulted in the need to prepare students to be flexible -- to be prepared to work under a wide range of economic and social task and reward structures in demand. They must learn not only how to be competitive, cooperative, and or individualistic as task and reward structures demand. They must learn the skills associated with transforming existing task and reward structures, not just responding to predetermined structures. Increasingly, economic success at both the individual and company levels, will come by transforming competitive task and reward structures to cooperative structures.

Schools must prepare students for a social and economic world which is changing so fast that is relatively unpredictable. However, in this rapidly changing, high-technology , management/information-oriented economic world of the future, there will be premium placed on individuals with a variety of social skills to succeed, students of today must learn to communicate and work well with others within the full range of social situations, especially within situations involving fluid social structures, human diversity, and interdependence.

The learning task in most cooperative learning methods includes much comprehensible input, extensive opportunity for students to generate output, great frequency and variety of practice, extensive time on task, great task structure and clarity, and the subdivision of the learning unit into moldable parts. All of these features may contribute to the achievement gains observed. Cooperative groups are different from typical classroom groups in several significant ways. There are five important principles which underlie successful cooperative learning experiences. They are: The Principle of Distributed Leadership; The Principle of Heterogeneous Grouping; The Principle of Positive Interdependence; The Principle of Social Skill Acquisition; and The Principle of Group Autonomy (Kagan, 1980; Johnson, 1981; Johnson & Holubec, 1988).

1. The Principle of Distributed Leadership

Cooperative learning is based upon the belief that all students are capable of understanding and performing leadership tasks. Experience and research show that when all group members are expected to be involved and are given leadership responsibilities, it increases the likelihood that each member will be an active participant who is able to initiate leadership when appropriate.

2. The Principle of Heterogeneous Grouping

Cooperative learning is based upon the belief that the most effective student groups are those which are heterogeneous. Groups which include students who have different social backgrounds, skill levels, physical capabilities and gender mirror the real world of encountering, accepting, appreciating, and celebrating differences.

3. The Principle of Positive Interdependence

Cooperative learning is based upon a belief that students need to learn to recognize and value their interdependence. Students must perceive that they need each other in order to complete the group's task (sink or swim together). Teachers may structure positive interdependence by establishing mutual goals (learn and make sure all other group members learn), joint rewards (if all group members achieve above the criteria, each will receive bonus points), shared resources (one paper for each group or each member receives part of the required

information), and assigned roles (summarizer, encourager of participation, elaborator).

4. The Principle of Social Skills Acquisition

Cooperative learning is based upon a belief that the ability to work effectively in a group is determined by the acquisition of specific social skills. These social skills can be taught and can be learned. Groups need specific time to discuss how well they are achieving their goals and maintaining effective working relationships among members. Groups cannot function effectively if students do not have or use the needed social skills. These skills are imparted as purposefully and precisely as academic skills would be taught. Collaborative skills include leadership, decision making, trust building, communication, and conflict-management.

5. The Principle of Group Autonomy

Cooperative learning is based upon the belief that student groups are more likely to attempt resolution of their problems if they are not "rescued" from these problems by their teacher. When students resolve their problems with a minimum of teacher input, they become more autonomous and self-sufficient. Students promote each other's learning by helping, sharing, and encouraging efforts to learn. Students explain, discuss, and teach what they know to classmates. Teachers structure the groups so that students sit knee-to-knee and talk through each aspect of the assignment.

In summary, these insights from research show effects of cooperative learning in classrooms with cultural diversity and wide range of academic abilities. Undoubtedly, more research directed at identifying the types of cooperative tasks and group structures best suited for different instructional settings and school subjects is needed, as is additional specifications of other influences such as gender and student achievement level that may affect cooperative activities (Webb & Kenderski, 1985). Nevertheless, with respect to multicultural, limited English proficiency, and second language education, different research findings indicate that cooperative learning provides learners with confidence, self-esteem, and social skills. Teachers will find the cooperative classroom structure to be more compatible with the social values of language limited students and other cooperative students. Children who value helping and sharing will find achievement rewarding in a cooperative classroom. Teachers of language-limited students will find that the particularly strong gains of non-white students in cooperative classrooms may be due to the compatibility of the cooperative classroom structure with the individual social values of non-white students. The choice of exclusively competitive and individualistic classroom structures may bias the academic and social outcomes.

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